CLAIMS

1. An image display system comprising:
a composite image source, a portion of the composite image source being
a first image source, and another portion of the composite image source being
a second image source;
a beamcombiner;
a single lens; and
a reflective element disposed to reflect the image of said second image source to said
beamcombiner;
wherein said first image source, said second image source, said beamcombiner, and
said single lens are so disposed as to present to a viewer a foreground image from one
of said image sources, and a background image from the other of said image sources,
the background image being presented at a greater distance from the viewer than the
foreground image, at least one of the images being a real image or virtual image
presented by the single lens;
whereby the viewer perceives the foreground image and the background image as
part of a scene having depth.

2. An image display system as in claim 1, further comprising an optical element
interposed between the beamcombiner and the viewer;
wherein said optical element is adapted to modify the aspect ratio of said foreground
image and said background image.

3. An image display system comprising:
a foreground image source;
a background image source;
a beamcombiner; and
a mask interposed between said background image source and said beamcombiner;
wherein said foreground image source, said background image source, and said
beamcombiner are so disposed as to present to a viewer a foreground image from the
foreground image source, and a background image from the background image
source, the background image being presented at a greater distance from the viewer
than the foreground image;
wherein said foreground image source and said mask are the same distance from said
beamcombiner; and
wherein said mask displays a silhouette of foreground objects that appear coincident
with said foreground image source,
whereby the viewer perceives the foreground image and the background image as
part of a scene having depth, and
whereby said mask acts to mask portions of the background image from the viewer so

as to improve presentation of foreground objects.

4. An image display system as in claim 3, wherein said mask is a light valve.

5. An image display system comprising:
a first image source;
a second image source;
a beamcombiner; and
a single lens;
wherein said first image source, said second image source, and said beamcombiner are so disposed as to present to a viewer a foreground image from one of said image sources, and a background image from the other of said image sources, the background image being presented at a greater distance from the viewer than the foreground image, and
wherein said lens is interposed between said first image source and the viewer so as to present at least one of the foreground image and the background image as a real image,
whereby the viewer perceives the foreground image and the background image as part of a scene having depth.

6. An image display system consisting of an image source and a single lens, wherein said lens is interposed between said image source and the viewer so as to present an image of the image source as a real image,
whereby the viewer perceives the image as floating in space between said lens and the viewer.

7. An image display system as in claim 6, wherein the lens is a Fresnel lens.

8. A method for displaying a three-dimensional scene to a viewer, said method comprising:
simultaneously presenting to both eyes of a viewer a first image that is generally planar;
simultaneously presenting to both eyes of a viewer a second image that is generally planar and is co-aligned with said first image along an axis that is in the general direction of the viewer but at a perceptibly different distance from the viewer than said first image;
wherein the one of said images that is at a distance closer to said viewer depicts objects in the foreground of said three-dimensional scene and the other of said images depicts objects in the background of said scene, and
wherein said first image and said second image are presented alternatingly to a viewer with a cycle that is within the time frame of persistence of vision,

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whereby the viewer observing said images perceives the depicted objects as part of a scene having real depth.

9. A method for displaying a three-dimensional scene to a viewer, said method comprising:
simultaneously presenting to both eyes of a viewer a first image that is generally planar;
simultaneously presenting to both eyes of a viewer a second image that is generally planar and is co-aligned with said first image along an axis that is in the general direction of the viewer but at a perceptibly different distance from the viewer than said first image;
wherein the one of said images that is at a distance closer to said viewer depicts objects in the foreground of said three-dimensional scene and the other of said images depicts objects in the background of said scene,
wherein said first image and said second image are each presented from a single source, and
wherein at least one of said images is a real image or virtual image presented by a single lens interposed between the single source and the viewer,
whereby the viewer observing said images perceives the depicted objects as part of a scene having real depth.

10. The method of claim 9, wherein the single source is a television screen and said first image and said second image are each derived from a portion of the television screen.

11. A method for displaying a three-dimensional scene to a viewer, said method comprising:
simultaneously presenting to both eyes of a viewer a first image that is generally planar;
simultaneously presenting to both eyes of a viewer a second image that is generally planar and is co-aligned with said first image along an axis that is in the general direction of the viewer but at a perceptibly different distance from the viewer than said first image;
wherein the one of said images that is at a distance closer to said viewer depicts objects in the foreground of said three-dimensional scene and the other of said images depicts objects in the background of said scene, and
wherein said first and second images are real images of first and second image sources, at least one of said real images being presented by a single lens interposed between the first image source and the viewer,
whereby the viewer observing said images perceives the depicted objects as part of a scene having real depth.

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12. A method for displaying a three-dimensional scene to a viewer, said method comprising:

simultaneously presenting to both eyes of a viewer a first image that is generally planar;

simultaneously presenting to both eyes of a viewer a second image that is generally planar and is co-aligned with said first image along an axis that is in the general direction of the viewer but at a perceptibly different distance from the viewer than said first image;

wherein the one of said images that is at a distance closer to said viewer depicts objects in the foreground of said three-dimensional scene and the other of said images depicts objects in the background of said scene, and

wherein said first and second images are virtual images of first and second image sources,

whereby the viewer observing said images perceives the depicted objects as part of a scene having real depth.

13. A method for displaying a three-dimensional scene to a viewer, said method comprising:

simultaneously presenting to both eyes of a viewer a first image that is generally planar;

simultaneously presenting to both eyes of a viewer a second image that is generally planar and is co-aligned with said first image along an axis that is in the general direction of the viewer but at a perceptibly different distance from the viewer than said first image;

wherein the one of said images that is at a distance closer to said viewer depicts objects in the foreground of said three-dimensional scene and the other of said images depicts objects in the background of said scene, and

wherein said first image is a real image of a first image source and said second image is a virtual image of a second image source,

whereby the viewer observing said images perceives the depicted objects as part of a scene having real depth.

14. A method for displaying a three-dimensional scene to a viewer, said method comprising:

simultaneously presenting to both eyes of a viewer a first image that is generally planar;

simultaneously presenting to both eyes of a viewer a second image that is generally planar and is co-aligned with said first image along an axis that is in the general direction of the viewer but at a perceptibly different distance from the viewer than said first image;

wherein the one of said images that is at a distance closer to said viewer depicts objects in the foreground of said three-dimensional scene and the other of said images depicts objects in the background of said scene, and
wherein said first image is a real image of a first image source and said second image is a second image source being viewed directly,
whereby the viewer observing said images perceives the depicted objects as part of a scene having real depth.

15. A method for displaying a three-dimensional scene to a viewer, said method comprising:
simultaneously presenting to both eyes of a viewer a first image that is generally planar;
simultaneously presenting to both eyes of a viewer a second image that is generally planar and is co-aligned with said first image along an axis that is in the general direction of the viewer but at a perceptibly different distance from the viewer than said first image;
wherein the one of said images that is at a distance closer to said viewer depicts objects in the foreground of said three-dimensional scene and the other of said images depicts objects in the background of said scene, and
wherein said first image is a virtual image of a first image source and said second image is a second image source being viewed directly,
whereby the viewer observing said images perceives the depicted objects as part of a scene having real depth.